Sex-specific differences in adverse outcome events among patients with atrial fibrillation

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Background: Controversial data have been published about whether women with atrial fibrillation (AF) have a higher risk of adverse events than men during long-term follow-up.

Methods: We prospectively followed 3894 patients (1095 (28%) women) with previously documented AF for a median of 4.02 (3.00; 5.83) years. The primary outcome was a composite of ischemic stroke, myocardial infarction and cardiovascular death. Secondary outcomes included the individual components of the composite outcome, hospitalization for heart failure, major and clinically relevant non-major bleedings and stroke or systemic embolism. We used Cox proportional-hazards models to compare outcomes between men and women, and to adjust for differences in comorbidities and risk factors.

Results: Mean age was 73.1 years in women versus 70.7 years in men (p<0.001). Men more often had a history of coronary artery disease (31.6% versus 14.8%, p<0.001), heart failure (25% versus 21%, p=0.01) and diabetes mellitus (18% versus 11%, p<0.001), while woman had more AF-related symptoms (78% versus 62%, p<0.001). The incidence per 100 patient-years of the primary endpoint was 2.46 in women vs. 3.24 in men (adjusted Hazard Ratio (aHR) 0.74; CI 95%, 0.58-0.94, p=0.01). Women died less frequently from cardiovascular (aHR 0.57; CI 95%, 0.41-0.78, p<0.001) and from non-cardiovascular (aHR 0.68; CI 95%, 0.47-0.98, p=0.04) causes. Further adjustments for various biomarkers did not significantly change the mortality-related effect sizes. There were no sex-specific differences in stroke (incidence 1.05 versus 1.00; aHR 1.02; CI 95%, 0.61-1.57, p=0.93), myocardial infarction (incidence 0.67 versus 0.72; aHR 0.98; CI 95%, 0.61-1.57, p=0.94), major and clinically relevant non-major bleeding (incidence 4.51 versus 4.34; aHR 0.95; CI 95%, 0.79-1.15, p=0.63), and heart failure hospitalization (incidence 3.28 versus 3.07; aHR 1.06; CI 95%, 0.85-1.32, p=0.60).

Conclusion: While women had a lower risk of death than men, there was no significant difference in stroke and other cardiovascular outcomes.